

USB DYNAMIC SERVICE SWITCH FOR DUAL PROCESSOR ARCHITECTURE

ABSTRACT

USB bus enumeration and configuration switching in a dual-processor
5 architected device can result in loss of the inter-processor communication link. In
order to solve this problem, an apparatus, architecture and method for simplifying
the Universal Serial Bus (USB) service enumeration between two processors in a
dual-processor architecture device are provided. A USB host (102) is connected
to a first processor (201) of the dual-processor device (100) via a USB cable
10 (104). The first processor (201) begins to enumerate services to the connected
host (102). When the host sends a set_configuration request (405) to the device
(100), the device determines whether the first processor (201) and the second
processor (203) have the same configuration sets. The first processor (201) sends
a set_configuration request to the second processor (203) to setup the requested
15 services in the second processor. If the configuration sets are different then the
first processor (201) sends one or more set_interface requests to the second
processor (203) in which each request turns on a specific service in response.